FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH, USPATFULL, JAPIO' ENTERED AT 17:48:55 ON 18 JUN 2002 22535 S (ORIGIN OF REPLICATION OR ORIV) 2456 S (ORIGIN OF TRANSFER OR ORIT) L1L2 385 S L1 AND L2 L3 71 S L3 AND COPY NUMBER 63 S L4 AND (ELEVATED OR INCREASED OR HIGH) L463 DUP REM L5 (0 DUPLICATES REMOVED) L5Ι6 38 S L6 AND (CIS OR TRANS) ь7 FILE 'STNGUIDE' ENTERED AT 17:53:10 ON 18 JUN 2002 FILE 'BIOSIS, CABA, CAPLUS, EMBASE, LIFESCI, MEDLINE, SCISEARCH, USPATFULL, JAPIO' ENTERED AT 17:55:51 ON 18 JUN 2002 O S L7 AND (COPY UP) $\Gamma8$ 1 S L6 AND (COPY UP) L9 FILE 'STNGUIDE' ENTERED AT 17:57:40 ON 18 JUN 2002

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ANSWER 1 OF 7 USPATFULL A method for modifying a wild strain of an entero-invasive Shigella to 9 produce a modified strain of Shigella that can be used for making a AB vaccine against the wild strain of Shigella. The genome of the wild strain of Shigella is transformed so that it cannot substantially invade cells of a human host and cannot spread substantially within infected cells and from infected to uninfected cells of the host and cannot produce toxins which will kill substantial numbers of the host's infected, as well as uninfected, cells. A first gene of the wild strain of Shigella, coding for a protein necessary for the Shigella to invade cells of the host, and a second gene, coding for a protein necessary for the Shigella to spread within infected cells and between the infected and uninfected cells of the host, are mutagenized. 1998:64737 USPATFULL ΑN Modified shigella having reduced pathogenicity TΙ Sansonetti, Philippe, Paris, France IN Fontaine, Annick, Paris, France Institut Pasteur, Paris, France (non-U.S. corporation) Institut National de la Sante et de la Recherche Medicale, Paris, France PΆ (non-U.S. government) 19980609 US 5762941 PI19930908 (8) US 1993-118100 Continuation of Ser. No. US 1990-460946, filed on 21 Mar 1990, now ΑI RLI abandoned 19880715 EP 1988-401842 PRAI Utility DΤ FS Granted EXNAM Primary Examiner: Caputa, Anthony C. Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P. LREP Number of Claims: 5 CLMN Exemplary Claim: 1,2,5 ECL 1 Drawing Figure(s); 1 Drawing Page(s) DRWN LN.CNT 1024 CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 2 OF 7 USPATFULL A new method is described for the preparation of a safe, immunogenic and L9 efficacious vaccine for protection against the disease pertussis. In AΒ development of this vaccine, specific functional sites of pertussis toxin have been identified, and using this information, defined mutant holotoxins have been produced by site directed mutagenesis of the toxin gene. A number of these holotoxin analogues are detoxified, retain an immunodominant S1 epitope, are immunogenic and are protective in the standard pertussis vaccine potency test in mice. 95:64716 USPATFULL Immunoprotective genetically-detoxified mutants of pertussis toxin AΝ TΙ Klein, Michel H., Willowdale, Canada IN Boux, Heather A., Aurora, Canada Cockle, Stephen A., Richmond Hill, Canada Loosmore, Sheena M., Aurora, Canada Zealey, Gavin R., Concord, Canada Connaught Laboratories Limited, Willowdale, Canada (non-U.S. PΑ corporation) 19950718 US 5433945 PΙ 19921120 (7) US 1992-979798 ΑI Division of Ser. No. US 1990-589423, filed on 28 Sep 1990, now patented, 20090204 DCD Pat. No. US 5244657 which is a continuation-in-part of Ser. No. US RLI 1988-275376, filed on 23 Nov 1988, now patented, Pat. No. US 5045862 19871124 GB 1987-27489 PRAI DTUtility Primary Examiner: Draper, Garnette D.; Assistant Examiner: Wang, Gian P. FS EXNAM Sim & McBurney LREP

Number of Claims: 14 CLMN Exemplary Claim: 1 37 Drawing Figure(s); 31 Drawing Page(s) ECL DRWN LN.CNT 1595 CAS INDEXING IS AVAILABLE FOR THIS PATENT. A new method is described for the preparation of a safe, immunogenic and ANSWER 3 OF 7 USPATFULL L9 efficacious vaccine for protection against the disease pertussis. In AΒ development of this vaccine, specific functional sites of pertussis toxin have been identified, and using this information, defined mutant holotoxins have been produced by site directed mutagenesis of the toxin gene. A number of these holotoxin analogues are detoxified, retain an immunodominant S1 epitope, are immunogenic and are protective in the standard pertussis vaccine potency test in mice. 94:93247 USPATFULL Genetic detoxification of pertussis toxin ΑN Klein, Michel H., Willowdale, Canada TIIN Boux, Heather A., Aurora, Canada Cockle, Stephen A., Richmond Hill, Canada Loosmore, Sheena M., Aurora, Canada Zealey, Gavin R., Concord, Canada Connaught Laboratories Limited, Willowdale, Canada (non-U.S. PΑ corporation) 19941025 US 5358868 PΙ 19911105 (7) US 1991-788313 ΑI Division of Ser. No. US 1990-589423, filed on 28 Sep 1990, now patented, DCD Pat. No. US 5244657 which is a continuation-in-part of Ser. No. US RLI 1988-275376, filed on 23 Nov 1988, now patented, Pat. No. US 5085862 19871124 GB 1987-27489 PRAI Utility DTPrimary Examiner: Hill, Jr., Robert J.; Assistant Examiner: Wang, Gian FS EXNAM Ρ. Sim & McBurney LREP Number of Claims: 8 CLMNExemplary Claim: 1 ECL35 Drawing Figure(s); 29 Drawing Page(s) DRWN LN.CNT 1523 CAS INDEXING IS AVAILABLE FOR THIS PATENT. A new method is described for the preparation of a safe, immunogenic and ANSWER 4 OF 7 USPATFULL L9 efficacious vaccine for protection against the disease pertussis. In AΒ development of this vaccine, specific functional sites of pertussis toxin have been identified, and using this information, defined mutant holotoxins have been produced by site directed mutagenesis of the toxin gene. A number of these holotoxin analogues are detoxified, retain an immunodominant S1 epitope, are immunogenic and are protective in the standard pertussis vaccine potency test in mice. 94:64259 USPATFULL Vaccine containing genetically-detoxified pertussis holotoxin AN ΤI Klein, Michel H., Willowdale, Canada IN Boux, Heather A., Aurora, Canada Cockle, Stephen A., Richmond Hill, Canada Loosmore, Sheena M., Aurora, Canada Zealey, Gavin R., Concord, Canada Connaught Laboratories Limited, Willowdale, Canada (non-U.S. PA corporation) 19940726 US 5332583 PΙ 19911105 (7) US 1991-788314 ΑI Division of Ser. No. US 1989-589423, filed on 28 Sep 1989, now patented, DCD RLI

Pat. No. US 5244657 which is a continuation-in-part of Ser. No. US 1988-275376, filed on 23 Nov 1988, now patented, Pat. No. US 5085862 19871124 GB 1987-27489 PRAI Utility DTPrimary Examiner: Hill, Jr., Robert J.; Assistant Examiner: Wang, Gian FS EXNAM Sim & McBurney LREP Number of Claims: 2 CLMN Exemplary Claim: 1 35 Drawing Figure(s); 29 Drawing Page(s) E.C.L. DRWN LN.CNT 1462 CAS INDEXING IS AVAILABLE FOR THIS PATENT. A new method is described for the preparation of a safe, immunogenic and ANSWER 5 OF 7 USPATFULL L9 efficacious vaccine for protection against the disease pertussis. In AB development of this vaccine, specific functional sites of pertussis toxin have been identified, and using this information, defined mutant holotoxins have been produced by site directed mutagenesis of the toxin gene. A number of these holotoxin analogs are detoxified, retain an immunodominant S1 epitope, are immunogenic and are protective in the standard pertussis vaccine potency test in mice. 93:76275 USPATFULL Genetic detoxification of pertussis toxin ANKlein, Michel H., Willowdale, Canada TIIN Boux, Heather A., Aurora, Canada Cockle, Stephen A., Richmond Hill, Canada Loosmore, Sheena M., Aurora, Canada Zealey, Gavin R., Concord, Canada Connaught Laboratories Limited, Willowdale, Canada (non-U.S. PΑ corporation) 19930914 US 5244657 PΙ 19900928 (7) US 1990-589423 ΑI Continuation-in-part of Ser. No. US 1988-275376, filed on 23 Nov 1988, DCD RLI now patented, Pat. No. US 5085862 19871124 GB 1987-27489 PRAI Utility DT EXNAM Primary Examiner: Hill, Jr., Robert J.; Assistant Examiner: Ossanna, Nina Sim & McBurney LREP Number of Claims: 4 CLMN Exemplary Claim: 1 38 Drawing Figure(s); 30 Drawing Page(s) ECLDRWN LN.CNT 1493 CAS INDEXING IS AVAILABLE FOR THIS PATENT. A new method is described for the preparation of a safe, immunogenic and ANSWER 6 OF 7 USPATFULL T.9 efficacious vaccine for protection against the disease pertussis. In AΒ development of this vaccine, specific functional sites of pertussis toxin have been identified, and using this information, defined mutant holotoxins have been produced by site directed mutagenesis of the toxin gene. A number of these toxin analogues are detoxified, retain an immunodominant S1 epitope, are immunogenic and are protective in the standard pertussis vaccine potency test in mice. 93:50489 USPATFULL Genetic detoxification of pertussis toxin ΑN Klein, Michel H., Willowdale, Canada TI IN Boux, Heather A., Aurora, Canada Cockle, Stephen A., Richmond Hill, Canada Loosmore, Sheena M., Aurora, Canada

Zealey, Gavin R., Concord, Canada Connaught Laboratories Limited, Willowdale, Canada (non-U.S. PΑ corporation) 19930622 US 5221618 PΙ Division of Ser. No. US 1988-275376, filed on 23 Nov 1988, now patented, 19910930 (7) AIRLI Pat. No. US 5085862 19871124 GB 1987-27489 PRAI Utility DTPrimary Examiner: Wax, Robert A.; Assistant Examiner: Bugaisky, Gabriele FS EXNAM Sim & McBurney LREP Number of Claims: 8 CLMN Exemplary Claim: 3 31 Drawing Figure(s); 24 Drawing Page(s) ECLDRWN LN.CNT 1186 CAS INDEXING IS AVAILABLE FOR THIS PATENT. A new method is described for the preparation of a safe, immunogenic and ANSWER 7 OF 7 USPATFULL efficacious vaccine for protection against the disease pertussis. In AΒ development of this vaccine, specific functional sites of pertussis toxin have been identified, and using this information, defined mutant holotoxins have been produced by site directed mutagenesis of the toxin gene. A number of these toxin analogues are detoxified, retain an immunodominant S1 epitope, are immunoganic and are protective in the standard pertussis vaccine potency test in mice. 92:8912 USPATFULL ΑN Genetic detoxification of pertussis toxin Klein, Michel H., Willowdale, Canada TΙ ΙN Boux, Heather A., Aurora, Canada Cockle, Stephen A., Richmond Hill, Canada Loosmore, Sheena M., Aurora, Canada Zealey, Gavin R., Concord, Canada Connaught Laboratories Limited, Willowdale, Ontario, Canada (non-U.S. PA corporation) 19920204 US 5085862 PΙ 19881123 (7) US 1988-275376 ΑI 19871124 GB 1987-27489 PRAI Utility DTGranted EXNAM Primary Examiner: Killos, Paul J. FS Sim & McBurney LREP Number of Claims: 16 CLMN Exemplary Claim: 1 27 Drawing Figure(s); 21 Drawing Page(s) ECLDRWN LN.CNT 1207 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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ANSWER 1 OF 9 CAPLUS COPYRIGHT 2002 ACS
     Antimicrobial agents that can serve as replacements to conventional
L3
     pharmaceutical antibiotics are disclosed. The antimicrobial agents
AΒ
     comprise conjugatively transmissible plasmids that kill targeted
     pathogenic bacteria, but are not harmful to donor bacteria. Two
                                                                      One type kills
      types of lethal transmissible plasmids are disclosed.
      recipient bacteria by unchecked ("runaway") replication
      in the recipient cells and is prevented from occurring in donor
      cells. Another type kills recipient bacteria by expressing a gene that
      produces a product detrimental or lethal to recipient bacterial cells,
      that gene being prevented from expression in donor cells.
      Specifically, the donor plasmid R6K is prepd. by site-directed
      mutagenesis of the replication protein gene pir (encoding .pi. protein,
      with amino acids 105, 106, and 107 substituted). Another donor
      plasmid RK2 is prepd. by mutating another rep gene called trfA.
      2002:172107 CAPLUS
ΑN
      Anti-microbial agents through lethal "runaway" plasmid replication
 DN
 TΙ
       mechanism
       Filutowicz, Marcin S.
 IN
       Wisconsin Alumni Research Foundation, USA
 PΑ
       PCT Int. Appl., 34 pp.
 SO
       CODEN: PIXXD2
       Patent
 DT
       English
 LA
 FAN.CNT 1
                                                   APPLICATION NO.
                          KIND DATE
       PATENT NO.
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                                                  WO 2001-US27028 20010830
                          A2 20020307
                AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
       WO 2002018605
 ΡI
                CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, DT, PO, DU, CD, CE, CT, CK, CI, TI, TM, TP, TT, TIA, UG
            PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM US, UZ, VN, YU, ZA, ZW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                   20000830
  PRAI US 2000-651290
          The replication genes of small cryptic plasmids are isolated and used to
        ANSWER 2 OF 9 USPATFULL
  L3
          construct controlled-replication plasmid vectors with the wide range of
  AB
          copy numbers controlled by defined helper plasmids. Controlled-
          replication vectors (RAMP vectors) can reach very high level of plasmid
           replication, which is not lethal to host unlike runaway
           replication vectors.
           2001:163042 USPATFULL
           Replication genes and gene products from small cryptic plasmids and
   AN
           methods for constructing controlled-replication plasmid vectors
   TI
           Burian, Jan, Vancouver, Canada
   IN
           Kay, William W., Victoria, Canada
           University of Victoria Innovation & Dev. Corp., British Columbia, Canada
   PΑ
           (non-U.S. corporation)
                                       20010925
           US 6294372
   ΡI
                                       19980313 (9)
           US 1998-42071
   ΑI
                                  19970314 (60)
           US 1997-40722P
   PRAI
           Utility
   DT
           GRANTED
   FS
           Primary Examiner: Yucel, Remy
   EXNAM
            Seed IP Law Group
   LREP
            Number of Claims: 11
   CLMN
            Exemplary Claim: 1
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ECL

28 Drawing Figure(s); 13 Drawing Page(s) LN.CNT 1991 CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 3 OF 9 USPATFULL The present invention relates to methods and compositions for the L3elucidation of mammalian gene function. Specifically, the present AΒ invention relates to methods and compositions for improved mammalian complementation screening, functional inactivation of specific essential or non-essential mammalian genes, and identification of mammalian genes which are modulated in response to specific stimuli. In particular, the compositions of the present invention include, but are not limited to, replication-deficient retroviral vectors, libraries comprising such vectors, retroviral particles produced by such vectors in conjunction with retroviral packaging cell lines, integrated provirus sequences derived from the retroviral particles of the invention and circularized provirus sequences which have been excised from the integrated provirus sequences of the invention. The compositions of the present invention further include novel retroviral packaging cell lines. 2001:102581 USPATFULL ANMammalian viral vectors and their uses Beach, David H., Huntington Bay, NY, United States TIHannon, Gregory J., Huntington, NY, United States IN Conklin, Douglas, Huntington Bay, NY, United States Sun, Peiging, Huntington, NY, United States Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, United States PA (U.S. corporation) 20010703 В1 US 6255071 PΙ Continuation-in-part of Ser. No. US 1996-716926, filed on 20 Sep 1996, 19970319 (8) ΑI RLI now patented, Pat. No. US 6025192 Utility DTPrimary Examiner: Elliott, George C.; Assistant Examiner: McGarry, Sean FS Foley, Hoag & Eliot LLP, Vincent, Matthew P., Olesen, James T. EXNAM LREP Number of Claims: 58 CLMN Exemplary Claim: 1 ECL 23 Drawing Figure(s); 23 Drawing Page(s) DRWN LN.CNT 3094 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention provides methods for site-specific recombination ANSWER 4 OF 9 USPATFULL L3 in a cell, as well as vectors which can be employed in such methods. The AΒ methods and vectors of the present invention can be used to obtain persistent gene expression in a cell and to modulate gene expression. One preferred method according to the invention comprises contacting a cell with a vector comprising an origin of replication functional in mammalian cells located between first and second recombining sites located in parallel. Another preferred method comprises, in part, contacting a cell with a vector comprising first and second recombining sites in antiparallel orientations such that the vector is internalized by the cell. In both methods, the cell is further provided with a site-specific recombinase that effects recombination between the first and second recombining sites of the vector. 2000:61443 USPATFULL Methods and vectors for site-specific recombination ANTΙ McVey, Duncan L., Derwood, MD, United States ΙN Kovesdi, Imre, Rockville, MD, United States GenVec, Inc., Gaithersburg, MD, United States (U.S. corporation) PΑ 20000516 US 6063627 PΙ 19980225 (9) US 1998-30563 AΙ

Continuation of Ser. No. WO 1996-US14123, filed on 27 Aug 1996 which is a continuation-in-part of Ser. No. US 1995-522684, filed on 1 Sep 1995, RLI now patented, Pat. No. US 5801030 DTUtility Granted FS Primary Examiner: Brusca, John S. EXNAM Leydig, Voit & Mayer, Ltd. LREP Number of Claims: 62 CLMN Exemplary Claim: 1 ECL 50 Drawing Figure(s); 15 Drawing Page(s) DRWN LN.CNT 2982 CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 5 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1 In Escherichia coli, aspartate aminotransferase (encoded by aspC) and Ъ3 aromatic amino acid aminotransferase (encoded by tyrB) share overlapping AΒ substrate specificity in the syntheses of aromatic amino acids. Through the transamination reactions catalyzed by AspC or TyrB, L-phenylalanine (L-Phe) can be produced from phenylpyruvate with aspartic acid as the amino donor. To modulate and enhance the production levels of proteins, both aspC and tyrB were subcloned into a runawayreplication vector. As a result, the specific activities of AspC and TyrB obtained showed 65-fold and 50-fold increases, respectively, compared with the wild-type level. Employing resting cells of AspC- and TyrB-overproducing E. coli K-12 strains for L-Phe productions resulted in molar conversion yields of 70% and 55%, respectively. With an additional introduction of phosphoenolpyruvate carboxykinase (encoded by pck) into the transamination reactions, the conversion yields were improved to 93% from 70% and to 75% from 55% in a relatively short time. These results account for more than an 8-fold increase in productivity, as compared to the previous report (Calton et al., 1985). In addition, a four-run reuse of the recombinant cells for L-Phe production gave a total yield of 91 $\mathrm{g/L}$ with a 93% conversion. 1999:349350 BIOSIS ΑN PREV199900349350 Enhanced conversion rate of L-phenylalanine by coupling reactions of DN aminotransferases and phosphoenolpyruvate carboxykinase in Escherichia TΙ Chao, Yun-Peng (1); Lai, Zhang Jian; Chen, Ping; Chern, Jong-Tzer (1) Department of Chemical Engineering, Feng Chia University, 100 Wenhwa ΑU CS Road, Taichung, Taiwan China Biotechnology Progress, (May-June, 1999) Vol. 15, No. 3, pp. 453-458. SO ISSN: 8756-7938. Article DTEnglish LA English SLANSWER 6 OF 9 USPATFULL A vertebrate animal, such as a human, is immunized with a bacterial host L3 cell harboring a recombinant replicon which provides a stochastically AΒ expressed cell killing function whereby the cells are biologically contained. The replicon also comprises a gene encoding an antigen which is to be displayed on the outer surface of the host cell, so that it can elicit an immune response from the immunized animal. This antigen comprises one or more epitopes from a pathogenic agent. 1998:161994 USPATFULL Method of immunization using biologically contained bacterial cells ANΤI Molin, S.o slashed.ren, Holte, Denmark IN Andersson, Poul Kirketerp, Frederiksberg, Denmark Gerdes, Kenn Ax.o slashed., Virum, Denmark Klemm, Per, Frederiksberg, Denmark Genexpress ApS, Frederiksberg, Denmark (non-U.S. corporation) PA 19981229 US 5853718 PΙ 19950502 (8) US 1995-434353 AΙ

Division of Ser. No. US 1994-205824, filed on 4 Mar 1994, now abandoned which is a continuation of Ser. No. US 1992-947910, filed on 21 Sep RLI 1992, now abandoned which is a continuation of Ser. No. US 1987-132942, filed on 6 Nov 1987, now abandoned 19860326 DK 1986-1455 PRAI 19861223 DK 1986-6294 Utility DTGranted FS Primary Examiner: Railey, II, Johnny F. EXNAM Cooper, Iver P. LREP Number of Claims: 29 CLMN Exemplary Claim: 1 ECL 34 Drawing Figure(s); 31 Drawing Page(s) DRWN LN.CNT 2913 CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 7 OF 9 USPATFULL The present invention provides methods for site-specific recombination L3 in a cell, as well as vectors which can be employed in such methods. The AΒ methods and vectors of the present invention can be used to obtain persistent gene expression in a cell and to modulate gene expression. One preferred method according to the invention comprises contacting a cell with a vector comprising an origin of replication functional in mammalian cells located between first and second recombining sites located in parallel. Another preferred method comprises, in part, contacting a cell with a vector comprising first and second recombining sites in antiparallel orientations such that the vector is internalized by the cell. In both methods, the cell is further provided with a site-specific recombinase that effects recombination between the first and second recombining sites of the vector. 1998:104603 USPATFULL ΑN Methods and vectors for site-specific recombination TΤ McVey, Duncan L., Derwood, MD, United States ΤN Kovesdi, Imre, Rockville, MD, United States GenVec, Inc., Rockville, MD, United States (U.S. corporation) PΑ 19980901 US 5801030 PΙ 19950901 (8) US 1995-522684 ΑI DTUtility Granted EXNAM Primary Examiner: Ketter, James; Assistant Examiner: Brusca, John S. FS Leydig, Voit & Mayer, Ltd. LREP CLMN Number of Claims: 47 Exemplary Claim: 1 ECL 7 Drawing Figure(s); 5 Drawing Page(s) DRWN LN.CNT 2482 CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 8 OF 9 USPATFULL L3 A replicon, in which a nucleotide sequence encoding a cell killing AΒ function is regulatably expressed when the replicon is harbored in one type of host cell (primary host cell), so that cells harboring the replicon are killed under conditions under which the cell killing function is expressed, and the nucleotide sequence encoding the cell killing function is regulatably or constitutively expressed when the replicon is harbored in another type of host cell (secondary host cell), so that cells harboring the replicon are invariably killed or killed under conditions under which the cell killing function is expressed, may be used in a method of active biological containment of cells under defined environmental conditions. The biological containment principle may be utilized in the industrial production of a biosynthetic product by recombinant DNA techniques, when deliberately releasing a genetically engineered microorganism to the natural environment or in the preparation of a live vaccine. The expression of the cell killing

function may be regulated by means of a promoter. 97:123058 USPATFULL ΑN Biological Containment ΤI Molin, S.o slashed.ren, Holte, Denmark IN Andersson, Poul Kirketerp, Frederiksberg, Denmark Gerdes, Kenn Axo, Virum, Denmark Klemm, Per, Frederiksberg, Denmark GX Biosystems A/S, Copenhagen, Denmark (non-U.S. corporation) PΑ 19971230 US 5702916 PΙ 19950525 (8) US 1995-449958 ΑI Continuation of Ser. No. US 1994-205824, filed on 4 Mar 1994, now RLI abandoned which is a continuation of Ser. No. US 1992-947910, filed on 21 Sep 1992, now abandoned which is a continuation of Ser. No. US 1987-132942, filed on 6 Nov 1987, now abandoned which is a continuation-in-part of Ser. No. US 1987-29760, filed on 13 Feb 1987, now abandoned And Ser. No. US 1984-610985, filed on 15 May 1984, now patented, Pat. No. US 4760022 , said Ser. No. US -947910 which is a continuation-in-part of Ser. No. US 1989-406880, filed on 13 Sep 1989, now patented, Pat. No. US 5545541 which is a continuation of Ser. No. US -29760 19860326 DK 1986-1455 PRAI 19861223 DK 1986-6294 Utility DTGranted Primary Examiner: Guzo, David; Assistant Examiner: Schwartzman, Robert FS EXNAM Cooper, Iver P. LREP Number of Claims: 69 CLMN Exemplary Claim: 45 ECL 34 Drawing Figure(s); 31 Drawing Page(s) DRWN LN.CNT 3135 CAS INDEXING IS AVAILABLE FOR THIS PATENT. ANSWER 9 OF 9 USPATFULL T.3 A replicon, in which a nucleotide sequence encoding a cell killing AΒ function is regulatably expressed when the replicon is harboured in one type of host cell (primary host cell), so that cells harbouring the replicon are killed under conditions under which the cell killing function is expressed, and the nucleotide sequence encoding the cell killing function is regulatably or constitutively expressed when the replicon is harboured in another type of host cell (secondary host cell), so that cells harbouring the replicon are invariably killed or killed under conditions under which the cell killing function is expressed, may be used in a method of active biological containment of cells under defined environmental conditions. The biological containment principle may be utilized in the industrial production of a biosynthetic product by recombinant DNA techniques, when deliberately releasing a genetically engineered microorganism to the natural environment or in the preparation of a live vaccine. The expression of the cell killing function may be regulated by means of a promoter. 97:86481 USPATFULL ΑN Biological containment TI Molin, S.o slashed.ren, Holte, Denmark ΙN Andersson, Poul Kirketerp, Frederiksberg, Denmark Gerdes, Kenn Ax.o slashed., Virum, Denmark Klemm, Per, Frederiksberg, Denmark GX BioSystems A/S, Copenhagen, Denmark (non-U.S. corporation) PΑ 19970923 US 5670370 PΤ 19950530 (8) ΑI US 1995-452494 Continuation of Ser. No. US 1994-205824, filed on 4 Mar 1994, now RLI abandoned which is a continuation of Ser. No. US 1992-947910, filed on 21 Sep 1992, now abandoned which is a continuation of Ser. No. US

1987-132942, filed on 6 Nov 1987, now abandoned
PRAI DK 1986-1455 19860326
DK 1986-6294 19861223
DT Utility
FS Granted
EXNAM Primary Examiner: Brittingham, Debra S.
LREP Cooper, Iver P.

CLMN Number of Claims: 49
ECL Exemplary Claim: 1
DRWN 31 Drawing Figure(s); 31 Drawing Page(s)

LN.CNT 3057 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> FIL STNGUIDE
COST IN U.S. DOLLARS

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

CA SUBSCRIBER PRICE

SINCE FILE TOTAL
28.97

SINCE FILE TOTAL
ENTRY SESSION
-0.62
-0.62

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FILE CONTAINS CURRENT INFORMATION. LAST RELOADED: May 31, 2002 (20020531/UP).

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